

Appl. No.: 09/871,452

Filed: 05/31/2001

Page 2

Amendments to the Claims:

1. (Original) A pilot synchronization channel structure for code division multiple access communication systems, comprising:
  - a synchronization channel (SCH) defined in wideband code division multiple access (WCDMA) protocol; and
  - a pilot channel overlapping the synchronization channel (SCH);wherein the pilot channel comprises data frames comprising  $p$  time slots; and wherein each time slot is packed with  $m$  pre-selected pilot symbols after spread spectrum and scrambling, wherein  $m$  and  $p$  are positive integers.
2. (Original) The pilot synchronization channel structure according to claim 1, wherein the first symbol of said  $m$  pilot symbols is 0, and the other symbols of said  $m$  pilot symbols are 1 or -1.
3. (Original) The pilot synchronization channel structure according to claim 2, wherein the pilot channel overlaps the synchronization channel (SCH) so that each time slot transmits a search code, comprised of a primary synchronization code and a secondary synchronization code, of one symbol length first, then transmits a pilot signal of  $m - 1$  symbols length.
4. (Original) The pilot synchronization channel structure according to claim 1, wherein all of said  $m$  pilot symbols are 1 or -1.
5. (Currently Amended) The pilot synchronization channel structure according to claim 4, wherein the pilot channel overlaps the synchronization channel (SCH) so that each time slot transmits two parts of a signal simultaneously, one part of the signal comprising a search code, comprised of a primary synchronization code and a secondary synchronization code, of one symbol length and  $m - 1$  symbols "0", respectively, and another part of the signal comprising a pilot signal of  $m$  symbols length transmitted continuously.
6. (Original) The pilot synchronization channel structure according to claim 1, wherein said pilot symbols have a length of  $n$  chips, said time slots have a length that satisfies

Appl. No.: 09/871,452

Filed: 05/31/2001

Page 3

the formula  $m * n = 2560$  chips, and said data frame has a length that satisfies the formula  $p * m * n = p * 2560$  chips, wherein  $n$ ,  $m$  and  $p$  are all positive integers.

7. (Original) The pilot synchronization channel structure according to claim 2, wherein said pilot symbols have a length of  $n$  chips, said time slots have a length that satisfies the formula  $m * n = 2560$  chips, and said data frame has a length that satisfies the formula  $p * m * n = p * 2560$  chips, wherein  $n$ ,  $m$  and  $p$  are all positive integers.

8. (Original) The pilot synchronization channel structure according to claim 4, wherein said pilot symbols have a length of  $n$  chips, said time slots have a length that satisfies the formula  $m * n = 2560$  chips, and said data frames have a length that satisfies the formula  $p * m * n = p * 2560$  chips, wherein  $n$ ,  $m$  and  $p$  are all positive integers.